

FIG. 1

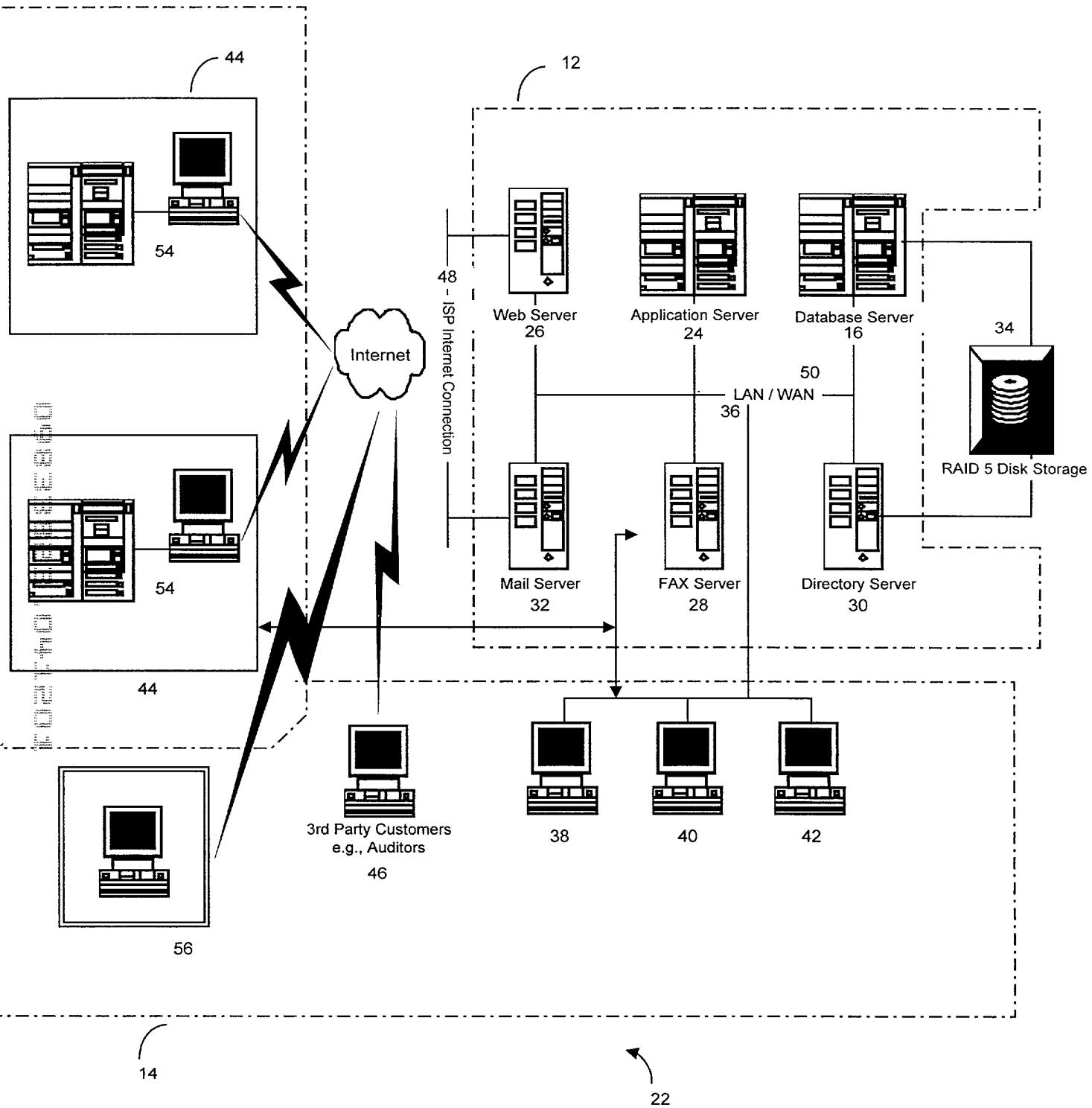
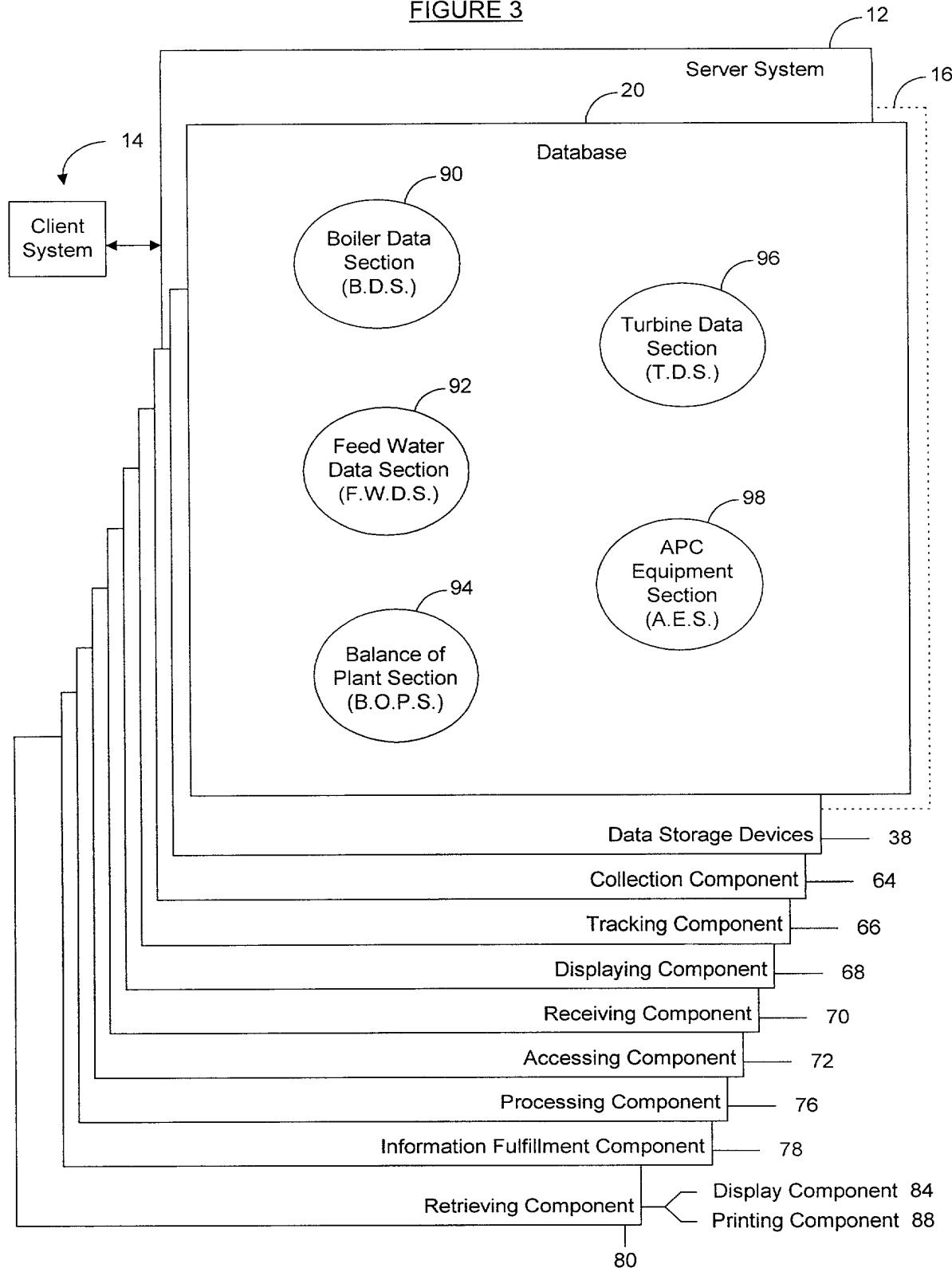


FIGURE 2

FIGURE 3



File Name: C:\Users\mt34601
 Project Name: Sampi Project
 Location: USA
 Operator: To Be Determined

Facility Generation Information (per unit information):

	Unit Gross Output (MWh)	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8
House Load	373	0	0	0	0	0	0	0	0
Typical									
Performance									
Existing Operational Hours From CO	148,920	0	0	0	0	0	0	0	0

Dispatch Information:

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8
Percentage of Available Hours Dispatched	2021	2022	2023	2024	2025	2026	2007	2008
January	100.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.10%	93.00%
February	100.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%
March	100.00%	94.00%	94.00%	94.00%	94.00%	94.00%	94.00%	94.00%
April	100.00%	84.00%	84.00%	84.00%	84.00%	84.00%	84.00%	84.00%
May	100.00%	86.00%	86.00%	86.00%	86.00%	86.00%	86.00%	86.00%
June	100.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%
July	100.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%
August	100.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%
September	100.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%
October	100.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%
November	100.00%	94.00%	94.00%	94.00%	94.00%	94.00%	94.00%	94.00%
December	100.00%	94.00%	94.00%	94.00%	94.00%	94.00%	94.00%	94.00%

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8
Dispatched Load	2021	2022	2023	2024	2025	2026	2007	2008
January	86.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%
February	86.00%	88.00%	88.00%	88.00%	88.00%	88.00%	88.00%	88.00%
March	86.00%	97.00%	97.00%	97.00%	97.00%	97.00%	97.00%	97.00%
April	86.00%	88.00%	88.00%	88.00%	88.00%	88.00%	88.00%	88.00%
May	86.00%	88.00%	88.00%	88.00%	88.00%	88.00%	88.00%	88.00%
June	86.00%	88.00%	88.00%	88.00%	88.00%	88.00%	88.00%	88.00%
July	86.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
August	86.00%	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%
September	86.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%
October	86.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%
November	86.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%
December	86.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%

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FIGURE - 4

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FIGURE 5

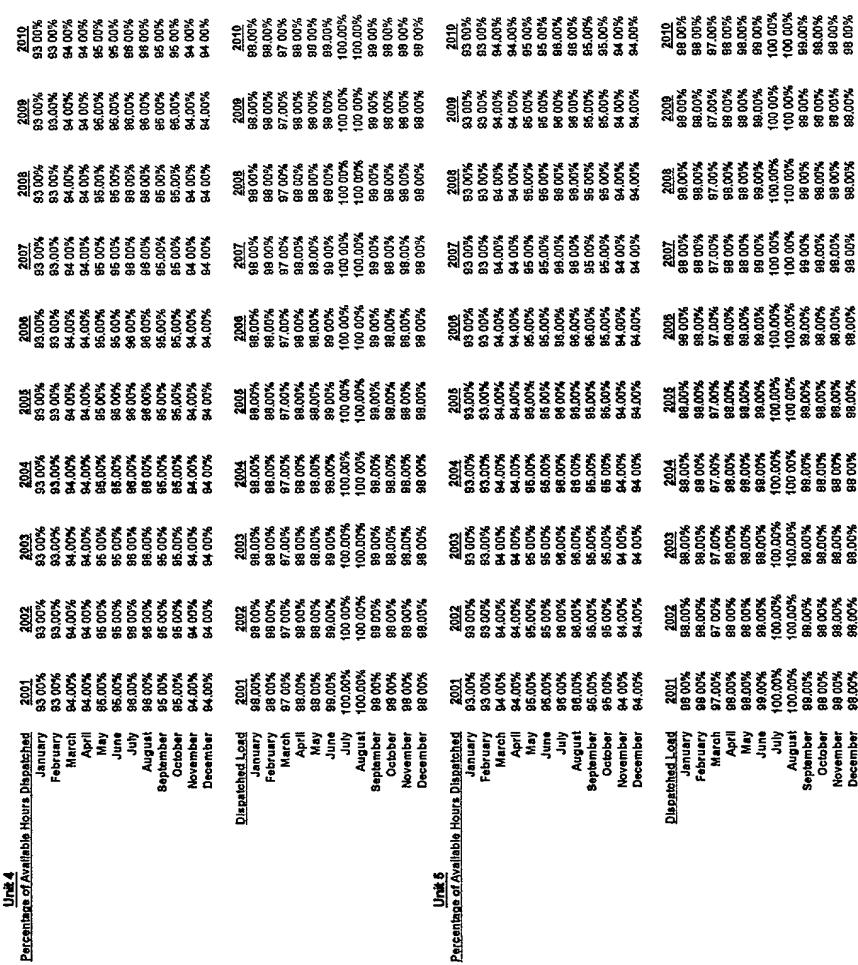


FIGURE 7

Unit 8		Percentage of Available Hours Dispatched											
		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010		
		January	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%		
		February	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%	93.00%		
		March	94.00%	94.00%	94.00%	94.00%	94.00%	94.00%	94.00%	94.00%	94.00%		
		April	94.00%	94.00%	94.00%	94.00%	94.00%	94.00%	94.00%	94.00%	94.00%		
		May	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%		
		June	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%	95.00%		
		July	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%		
		August	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%		
		September	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%		
		October	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%		
		November	94.00%	94.00%	94.00%	94.00%	94.00%	94.00%	94.00%	94.00%	94.00%		
		December	94.00%	94.00%	94.00%	94.00%	94.00%	94.00%	94.00%	94.00%	94.00%		
Dispatched Load		2001	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%		
		January	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%		
		February	98.00%	97.00%	97.00%	97.00%	97.00%	97.00%	97.00%	97.00%	97.00%		
		March	98.00%	97.00%	97.00%	97.00%	97.00%	97.00%	97.00%	97.00%	97.00%		
		April	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%		
		May	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%		
		June	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%		
		July	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%		
		August	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%		
		September	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%		
		October	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%		
		November	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%		
		December	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%		

FIGURE - 8

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Fuel Information	
Actual Analyses	
Moisture & Ash free	Proximate (Ash free)
Carbon	Fixed Carbon
Hydrogen	Volatile Matter
Nitrogen	Water
Chlorine	Ash
Sulfur	100.00%
Oxygen	Excess Air
	HHV
	9,300
Ash Mineral Analysis	
Alumina - Al2O3	81.00%
Ammonium - NH4O	14.00%
Titanium - TiO2	1.10%
Partial Oxide - Fe2O3	0.80%
Lime - CaO	24.40%
Magnesium - MgO	0.70%
Potassium Oxide - K2O	0.30%
Sodium Oxide - Na2O	0.30%
Sulfur Trioxide - SO3	0.20%
Phosphorous Pentoxide - P2O5	0.10%
Undetermined	2.30%

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Operational Information	
Actual cycle values	
Cycle	
Stack Temperature (F)	275
Actual	275
Unit 1	490
Unit 2	0
Unit 3	0
Unit 4	0
Unit 5	0
Unit 6	0
Unit 7	0
Unit 8	0

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Cycle	Stack Temperature (F)	Outlet Temperature	Outlet Pressure (psi)	Outlet Pressure (psi)	Unit Pressure (psi)	Unit Pressure (psi)	Unit Temperature (F)	Unit Temperature (F)
Unit 1	2,453.331	2,410	1,000	1,000				
Unit 2								
Unit 3								
Unit 4								
Unit 5								
Unit 6								
Unit 7								
Unit 8								

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Cycle	Stack Temperature (F)	Outlet Temperature	Outlet Pressure (psi)	Unit Pressure (psi)	Unit Pressure (psi)	Unit Temperature (F)	Unit Temperature (F)
Unit 1	2,251.015	539	374	374	374	910	1,000
Unit 2							
Unit 3							
Unit 4							
Unit 5							
Unit 6							
Unit 7							
Unit 8							

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Cycle	Stack Temperature (F)	Outlet Temperature	Outlet Pressure (psi)	Unit Pressure (psi)	Unit Pressure (psi)	Unit Temperature (F)	Unit Temperature (F)
Unit 1	490	275	1,000	1,000	1,000	910	1,000
Unit 2	0	0	0	0	0	0	0
Unit 3	0	0	0	0	0	0	0
Unit 4	0	0	0	0	0	0	0
Unit 5	0	0	0	0	0	0	0
Unit 6	0	0	0	0	0	0	0
Unit 7	0	0	0	0	0	0	0
Unit 8	0	0	0	0	0	0	0

FIGURE-9

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Facility Equipment Information:

Flyash Control Equipment

Unit #	Equipment
Unit 1	ESP
Unit 2	ESP
Unit 3	ESP
Unit 4	ESP
Unit 5	ESP
Unit 6	ESP
Unit 7	ESP
Unit 8	ESP

SO₂ Control Equipment

Unit #	Equipment
Unit 1	lime
Unit 2	lime
Unit 3	lime
Unit 4	lime
Unit 5	lime
Unit 6	lime
Unit 6	lime
Unit 7	lime
Unit 8	lime

Mercury Control Equipment

Unit #	Equipment
Unit 1	activated carbon
Unit 2	no control
Unit 3	no control
Unit 4	no control
Unit 5	no control
Unit 6	no control
Unit 7	no control
Unit 8	no control

NO_x Control Equipment

Unit #	Equipment
Unit 1	scr
Unit 2	low NOx burners
Unit 3	scr
Unit 4	low NOx burners
Unit 5	low NOx burners
Unit 6	low NOx burners
Unit 7	low NOx burners
Unit 8	low NOx burners

Price Information

Coal Pricing	\$15.00
FOB Mine	\$15.00
Transportation	\$30.00

FIGURE E-10

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	2001	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Total
Direct Labor Adjusted for local labor requirements year 1 now 0	0									\$0 469,463 F
Operator's Fees & Services	\$6,469,463									\$227,429 F
Bonus Payment:	\$0									\$0 F
Home Office Technical Support, Percent of Actual Labor	\$0									\$0 F
Warranty Support: Percent of Actual Labor	\$0									\$0 F
Planned Maintenance:	\$4,100,334									\$4,100,334 M
 Boiler Turbine (Major Turbine Outage assumed in 1988) APC Equipment Friedwater System BOP										\$4,10,333 M
Unplanned Maintenance: (10% of Planned Maintenance)	\$4,10,333									
Planned Spare Parts:										
Boiler Turbine APC Equipment Friedwater System BOP	\$173,1881 \$78,230 \$148,451 \$62,161 \$173,891 \$2,685,394									\$173,1881 \$78,230 \$148,451 \$62,161 \$173,891 \$2,685,394
Unplanned Spare Parts: (10% of Planned Spare Parts)	\$208,539									\$208,539 V
Employee Travel & Relocation:	\$88,200									\$88,200 F
Other Employee Expenses, Fees and Services	\$285,422									\$285,422 F
Office/Administrative expenses:	\$35,973									\$35,973 F
 Contract Services: Percent of Actual Labor										
Alt Disposal:	\$1,120,360	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,120,360 V
Start-up Fuel:	\$2,274,76	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,274,76 V
Consumables:	\$379,977									\$379,977 V
Chemicals:	\$485,085									\$485,085 V
Cost:										
Limestone:	\$109,48	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$109,48 V
Purchased Power:	\$1,12,700	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,12,700 V
Equipment Rental:	\$1,416,853									\$1,416,853 V
 Total Operating Budget	Case 4									
Taxes	\$0									
Insurance	Net Reduced Budget Data Base	\$0								
Total Operations Costs including Taxes and Insurance	\$0									\$0 7,720,937 F
 Cost of W/W Generated Electricity										
 Cost of Generation										2,811,706,822
										\$0 0,028

FIGURE- 12

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O&M Cost Summary For: 2001				
	Fixed Costs	Variable Costs	Major Maintenance	Fuel
Direct Labor:				
Operator's Fees & Services:	\$640,663			
Bonus Payments:				
Home Office Technical Support:	\$0			
Warranty Support:	\$0			
Planned Maintenance*				
Power Marketing & Resource Management	\$0			
Unplanned Maintenance:				
Planned Spare Parts:				
Boiler:	\$1,721,861			
Turbine:	\$750,220			
APC Equipment:	\$14,551			
Fedderbar System:	\$82,461			
BOF:	\$17,031			
Unplanned Spare Parts:				
Employee Travel & Relocation:	\$45,300			
Other Employee Expenses, Fees and Services	\$295,422			
Office/Administration expenses:	\$391,873			
Contract Services*				
Ash Disposal:	\$1,128,940			
Start-up Fuel:	\$84,718			
Consumables:	\$379,977			
Chemicals:	\$459,838			
Cost:	\$49,810,028			
Limestone:	\$269,458			
Purchased Power:	\$212,720			
Equipment Permit:	\$1,118,253			
			Total Generation \$2,215,535	
Total Operating Budget	\$1,022,008	\$7,219,116	\$4,619,267	\$4,810,028
		13.05%	5.67%	89.45%
		Fixed Costs	Variable Costs	Fuel
		\$0,000	\$0,000	\$0,000
				\$1,022,008

FIGURE - 13

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FIGURE 14

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Operator: To Be Determined

Facility Generation Information (per unit information):

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Total
Facility Net Output: House Load (-5.5%):	1	352.0	0.0	0.0	0.0	0.0	0.0	0.0	352.0 MW
House Load in MW		5.50%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
20.48		0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Line Losses: Unit Gross Output:		0	0	0	0	0	0	0	
		373	373	373	373	373	373	373	
Total Installed Capacity in MW	373								
Equivalent Gross									
Based on Actual Gross Output = 1									
Based on E&M. Gross Output = 2									
0 #/hr		0	0	0	0	0	0	0	
O&M Costs Calculated: Equity, Increased MW Output* (Approximate)		0	0	0	0	0	0	0	
Gross Output Used in O&M Calculations:		373	0	0	0	0	0	0	
Unit Net Heat Rate (MMBtu/									
BTU/KWH		10,098	0	0	0	0	0	0	
MMBtu/Wh		10,098	0	0	0	0	0	0	
(Full Load Calculated Value)									
MMBtu/kWh									

Operational Information For:

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Total
Unit in Operation	1	0	0	0	0	0	0	0	1
Year=1, Net=1									
Base O&M Labor Costs On									
Gross Maximum Capacity	9,887	373	0	0	0	0	0	0	373
Net Maximum Capacity		352	0	0	0	0	0	0	352
Gross Generation (Actual)		89.53%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Net Generation (Actual)		84.65%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Gross Generation (Actual)		2,621.798	0	0	0	0	0	0	2,621.798
Net Generation (Actual)		2,761,087	0	0	0	0	0	0	2,761,087
Per Year = 1, Per Month = 2	1	6,760	0	0	0	0	0	0	0
Period Hours		6,760	0	0	0	0	0	0	
Available Hours		8,256	0	0	0	0	0	0	
Fixed Outage Hours		0	0	0	0	0	0	0	
Planned Outage Hours		0	0	0	0	0	0	0	
Maintenance Outage Hours		0	0	0	0	0	0	0	
Average Load Condition (Gross)	MW	354	0	0	0	0	0	0	MW
Average Load Condition (Net)	%	89.63%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
		334	0	0	0	0	0	0	
		95.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	

QF Steam For:

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8
QF Steam Flow (% of MCR)	0%	0%	0%	0%	0%	0%	0%	0%
Pounds Per Hour (Average)	0	0	0	0	0	0	0	0
Pounds Per Year	0	0	0	0	0	0	0	0
Pressure (psig)	450	450	450	450	450	450	450	450
Degrees of SH (F)	50	50	50	50	50	50	50	50
(Input 0 for saturated steam or input actual degrees of SH)								

CoalPerf031601
 Execution Date: 3/17/2001
 General Information

Establishment Rate	1st Year Survival	2nd Year Survival	3rd Year Survival	4th Year Survival	5th Year Survival
1st Year Survival	80%	70%	60%	50%	40%
2nd Year Survival	70%	60%	50%	40%	30%
3rd Year Survival	60%	50%	40%	30%	20%
4th Year Survival	50%	40%	30%	20%	10%
5th Year Survival	40%	30%	20%	10%	0%

Exchange Rate (X/US\$)	1	Cost per Ton of Fuel (including trans.)	Disposal Cost per Ton of Ash/Scrubber Sludge	Disposal Cost per Ton of Ash/Scrubber Sludge	Start-up Fuel
Cost per Ton of Fuel (including trans.)		Coal FOB Mine: Transportation:	LIMESTONE 1 LINE 2	Line FOB Mine: Transportation:	Oil Cost Per Gallon (Delivered)
		\$15.00 \$15.00 \$30.00 \$33.07 per ton per tonne	\$10.00 2	Total:	2 \$0.80
		MM Bl'st'ion. \$MM Bl's - FOB mine \$MM Bl's - Delivered	17.00 \$0.88 \$1.76		N3 Cost Per Therm Transportation:

Coal Pricing - Tonne Basis		97.06	114.51%
69.66	84.76	121.87%	
6.66	7.55	113.38%	
			114.04%
			8.61

21.35	22.68	106.23%
		115.61%

FIGURE-15

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Operator Related Information:	
Operator Fee	\$0
Operator Bonus	\$0
Home Office Tech Support	\$0
Warranty Support	\$0
Number of sites	4
Unbilled/unbilled Facility	0
Overline	10%

<u>Unit 5</u>	<u>Unit 6</u>	<u>Unit 7</u>	<u>Unit 8</u>
PC	PC	PC	PC
1	1	1	1
1	1	1	1
1	1	1	1
1	1	1	1

Facility Equipment Information:		Unit 1		Unit 2		Unit 3		Unit 4	
Type Of Boiler Equipment (1 or 2)	Number of Boilers	PULVERIZED COAL							
1	2	FLUIDIZED BED							
Unit Design / Commercial Operation Date		PC		PC		PC		PC	
Number of Boilers		1		1		1		1	
Flue Gas Control System		1 ESP		2		1		3	
SO ₂ Control System:		2 BAGHOUSE		3 BAGHOUSE PLUS GORETEX BAGS					
NOx Control:		1 NO ₂ EQUIPMENT		3 SCRUBBER		1		2	
Mercury Control System:		1 NO ₂ CONTROL		2 ACTIVATED CARBON		2		1	

1 LOW NOX BURNERS	1	1	1	1	1	1	1
2 SNCR	2	1	1	1	1	1	1
3 SCR	3	1	1	1	1	1	1
Cooling Tower: (Yeast1; No=0)							
Cycle:							
1 ACTUAL CYCLE VALUES							
2 STANDARD 1800 PSIG (NON-REHEAT)							
3 STANDARD 2400 PSIG (5% OP)							
Superheater:							
(-4,080,000 @ 600 MW)							
Flow without QF heat loss	2,669,331	0	0	0	0	0	0
Eqv. QF Steam Increase	0	0	0	0	0	0	0
Outlet Pressure	2,989,331	0	0	0	0	0	0
Outlet Temperature	2,400	0	0	0	0	0	0
Reheater:	1,000	0	0	0	0	0	0
~3,770,000 @ 800 MW							
Flow without QF heat loss	2,254,865	0	0	0	0	0	0
Eqv. QF Steam Increase	0	0	0	0	0	0	0
Inlet Pressure (psig)	2,254,865	0	0	0	0	0	0
Inlet Temperature (F)	639	0	0	0	0	0	0
Outlet Pressure (psig)	680	0	0	0	0	0	0
Outlet Temperature (F)	574	0	0	0	0	0	0
Feedwater Temperature	1,000	0	0	0	0	0	0
Stack Temperature	480	0	0	0	0	0	0
Ambient Temperature	1	275	0	0	0	0	0
Spares Cost	2	80	0	0	0	0	0
Fuel Loss during Handling:	SO2 Removal	80%	0%	0%	0%	0%	0%
		3%	0%	0%	0%	0%	0%

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Fuel Information:	ACTUAL ANALYSIS	1	Sub-	Natural Gas
	STANDARD BITUMINOUS	2	Blends	(Gas analysis is entered on fuels page)
	STANDARD SUBBITUMINOUS	3	29.60%	O2 0.00%
	STANDARD LIGNEITE (TEXAS)	4	5.50%	Oxygen 0.00%
	STANDARD NATURAL GAS	5	48.30%	Argon 0.00%
	Selected Fuel Input:	1	3.40%	Carbon Dioxide 0.00%
			0.70%	Nitrogen 0.00%
			0.01%	Hydrogen H2 0.00%
			0.85%	Sulfur Dioxide H2S 0.00%
			11.80%	Methane CH4 0.00%
			106.30%	Ethane C2H6 0.00%
				Propane C3H8 0.00%
				n-Butane C4H10 0.00%
				n-Pentane C5H12 0.00%
				1-hexane C6H14 0.00%
				Total: 0.00%
	Excess Air:	20.00%		Excess Air: 10.00%
	H:M:	8.500	Blowb:	H:M: 0 Biu/Cf(1)
	L:M:	18.38	Gasoline:	L:M: 0 Biu/Cf(1)
	Proximate:	Fixed Carbon (different)		Note 1: (88F,307W/G)
		Volatile Matter		
		Sulfur		
		30.44%		
		0.85%		

3/17/2001

5:06 PM

General Information

Coal Part 031701

Figure-17

Furnace Volume Design Parameters	
Volume - Cu. Ft.:	20,000
Surface - Sq. Ft. (EPRS - Up Note):	200,000
NH/PA:	1,880,000
Carbon Loss	0.25%

✓ 258

CalPerf031701

FIGURE - 18

270

File Name: CoalPer031601
 Project Name: Sample Project

Location: USA

Operator: To Be Determined

Escalation	4.00%	Total Facility								
Escalation Factor	1.070	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	
Unit Gross Output	Number of Equipment Sets Per Unit	1	0	0	0	0	0	0	0	
Development Costs		373	0	0	0	0	0	0	373	
Internal Costs		19-Mar-01								
Third Party Costs		\$11,533	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$11,532.65	
Project Counsel		\$12,325	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$12,325.70	
Development Contingency		\$1,578	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,577.69	
Land Options		\$0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Pre NTP EPC Cost		\$966	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$966.06	
Total Development Costs		\$1,672	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,672.11	
Development Fee		\$26,694	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$26,694.24	
Mine Acquisition Costs		\$0.057	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.057.13	
Site Purchase		\$0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Development Fee/Mine Acquisition/Site		\$12,076	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$12,076.17	
Plant		\$21,133	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$21,133.30	
Boilers										
Headers		\$4,307	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Heating Surface		\$21,098	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Waterwall		\$12,904	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Steel		\$16,533	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Fining Equipment		\$10,270	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Misc Equipment		\$20,246	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
		\$86,501	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$86,500.85	
Turbine Generators		\$38,324	\$0	\$0	\$0	\$0	\$0	\$0	\$38,324.26	
BAGHOUSE		\$7,459	\$0	\$0	\$0	\$0	\$0	\$0	\$7,459.07	
SCRUBBER		\$37,253	\$0	\$0	\$0	\$0	\$0	\$0	\$37,252.60	
ACTIVATED CARBON		\$419.07	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$419.07	
SCR		\$37,253	\$0	\$0	\$0	\$0	\$0	\$0	\$37,252.60	
Circulating Water System		\$1,275.65	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,275.65	
Electrical System & Equipment		\$23,330.45	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$23,330.45	
Fuel Storage & Handling		\$1,862.70	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,862.70	
Infrastructure		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Water Treatment		\$3,132.42	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$3,132.42	
Other		\$39,765.15	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$39,765.15	
Misc Insurance		\$515.62	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$515.62	
Fixtures										
Boilers - not plant related		\$446.53	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$446.53	
Chimneys		\$3,500.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$3,500.00	
Cooling Towers		\$20,257.65	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$20,257.65	
Coal Bunkers		\$1,002.47	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,002.47	
Land & Buildings		Buildings	\$34,773.70	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$34,773.70	
Other		EPC Target	\$449,085.60	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$449,085.60	
Total EPC Costs		\$440,046.65	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$440,046.65	
Transmission Fees During Construction		\$4,021.87	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$4,021.87	
Waste Water Pipeline		\$11,189.05	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$11,189.05	
Management Services During Construction										
General & Administrative		\$15,362.48	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$15,362.48	
Professional Services		\$2,760.96	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$2,760.96	
Engineering Consultants		\$1,972.11	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,972.11	
Utilities		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Owner's Mobilization G&A		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Other Owner's Costs		\$2,218.63	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$2,218.63	
Management Services Fee		\$1,725.60	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,725.60	
Total Owner's Costs		\$24,059.76	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$24,059.76	
O&M Mobilization										
Labor		\$8,608.58	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$8,608.58	
Fee		\$1,015.84	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,015.84	
G&A		\$374.70	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$374.70	
Plant Consumables		\$1,356.81	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,356.81	
Equipment		\$5,423.31	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$5,423.31	
Owner's G&A		\$9,653.25	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$9,653.25	
Infrastructure Costs										
Roads		\$8,293.15	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$8,293.15	
Community Infrastructure		\$1,054.09	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,054.09	
Mine Industrial Area		\$3,160.74	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$3,160.74	
Construction Camp		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Water Management		\$1,176.37	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,176.37	
Total Infrastructure Costs		\$15,874.35	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$15,874.35	
Owner's Contingency										
Power Plant EPC Costs		\$40,204.87	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$40,204.87	
Transmission Costs		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Electrical Interconnection		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Infrastructure Costs		\$1,587.44	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,587.44	
Total Owner's Contingency		\$41,772.10	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$41,772.10	
Financing Fees/Costs										
Financial Advisor		\$6,409.37	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$6,409.37	
Upfront Fees		\$2,381.48	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$2,381.48	
		\$14,790.85	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$14,790.85	
Unit Gross Output		Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Total Facility
Total Cost		\$373	0	0	0	0	0	0	0	\$373
\$/kW Installed		\$1,576	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,576

Item	Item Description	Mar-01	Mar-02	Mar-03	Mar-04	Mar-05	Mar-06	Mar-07	Mar-08	Mar-09	Mar-10	10 Year Average
Item												
Heating Oil	Mar-01	\$1	\$1	\$1	\$1	\$1	\$1	\$1	\$1	\$1	\$1	\$1
Heating Oil (International Year)	Mar-01	\$1	\$1	\$1	\$1	\$1	\$1	\$1	\$1	\$1	\$1	\$1
Operational Year	Mar-01	\$1	\$1	\$1	\$1	\$1	\$1	\$1	\$1	\$1	\$1	\$1
Waterwell	\$289	\$1,280	\$2,58	\$2,58	\$2,58	\$2,58	\$2,58	\$2,58	\$2,58	\$2,58	\$2,58	\$258
Crating	\$459	\$2,193	\$4,39	\$4,39	\$4,39	\$4,39	\$4,39	\$4,39	\$4,39	\$4,39	\$4,39	\$39
Heating Surface	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Crates	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pulverizers	\$0	\$1,032	\$9	\$2,58	\$2,58	\$2,58	\$2,58	\$2,58	\$2,58	\$2,58	\$2,58	\$258
Air Pre-Heater	\$0	\$1,032	\$9	\$2,58	\$2,58	\$2,58	\$2,58	\$2,58	\$2,58	\$2,58	\$2,58	\$258
Fuel Handling	\$0	\$88	\$0	\$177	\$177	\$177	\$177	\$177	\$177	\$177	\$177	\$88
Headers	\$0	\$215	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$43
Steel	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Belts/Crushers	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$13
Casing/Refraction/Ductwork	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Chemical Cleaning	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Sub-Total	\$697	\$2,381	\$887	\$1,338	\$887	\$2,143	\$687	\$2,143	\$687	\$687	\$687	\$687
Turbine (Ins/Overhaul)	\$0	\$1,916	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Turbine Valves	\$0	\$575	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$144
Generator (Inspections)	\$0	\$785	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$153
Sub-Total	\$0	\$3,257	\$0	\$680								
Anion Resin	\$344	\$0	\$0	\$276	\$276	\$276	\$276	\$276	\$276	\$276	\$276	\$188
Cation Resin	\$0	\$141	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$27
MB Resin	\$141	\$0	\$0	\$110	\$110	\$110	\$110	\$110	\$110	\$110	\$110	\$52
Carbon Filters	\$78	\$0	\$78	\$0	\$78	\$78	\$78	\$78	\$78	\$78	\$78	\$39
Gravity Filters	\$0	\$13	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5
Sub-Total	\$694	\$141	\$91	\$486	\$486	\$78	\$78	\$126	\$126	\$126	\$126	\$234
BAGHOUSE SCRUBBER	\$0	\$0	\$0	\$64	\$64	\$64	\$64	\$64	\$64	\$64	\$64	\$49
Sub-Total	\$0	\$0	\$310	\$0	\$0	\$310	\$0	\$310	\$0	\$310	\$0	\$93
Electrical	\$0	\$233	\$0	\$233	\$233	\$233	\$233	\$233	\$233	\$233	\$233	\$233
IBC	\$0	\$117	\$0	\$117	\$117	\$117	\$117	\$117	\$117	\$117	\$117	\$117
Power Block	\$0	\$1,916	\$0	\$958	\$958	\$958	\$958	\$958	\$958	\$958	\$958	\$958
Ash Handling	\$413	\$0	\$206	\$0	\$206	\$206	\$206	\$206	\$206	\$206	\$206	\$155
General	\$122	\$0	\$139	\$0	\$139	\$139	\$139	\$139	\$139	\$139	\$139	\$88
Facilities/Infrastructure	\$0	\$122	\$0	\$122	\$122	\$122	\$122	\$122	\$122	\$122	\$122	\$71
Sub-Total	\$636	\$2,387	\$346	\$489	\$1,310	\$606	\$689	\$2,138	\$335	\$472	\$472	\$938
Total:	\$1,795	\$11,636	\$1,607	\$2,384	\$2,384	\$1,377	\$1,377	\$1,377	\$1,377	\$1,377	\$1,377	\$2,101
												\$4,100

FIGURE E-19

300

General Project Information:

File Name: CoalPerf031601
Project Name: Sample Project

Location: USA

Operator: To Be Determined

Operator's Fees & Services:

Operator Fee	\$0
Legal Services	\$139,805
Construction Services	\$146,709
Testing Services	<u>\$41,424</u>
Total Fees & Services	\$327,939

Travel: \$86,300

Misc. Employee Expenses \$286,422

↑
FIGURE- 20 310

File Name: CoalPerf031601
Project Name: Sample Project

Location: USA

Operator: To Be Determined

Sample Project

Consumables:

Lubricating Oils	\$379,977
Hydraulic Oil.	
Solvents/Boiler Wash.	
Cleaning Materials.	
Welding Supplies:	
Nuts/Bolts/Small Mechanical Parts:	
Fuses/Light Bulb/small Elect. Parts:	
Fitngs/Small I&E Parts:	
Gas & Oil.	
Total Oils and Lubricants	\$379,977

Chemicals:

Boiler Water.	62.27%	\$285,603
Cooling Water.	36.38%	\$166,889
Demin. Regen.	1.35%	\$6,194
Fuel Oil.		
Sanitary		
NOx		
Aqueous Ammonia:		
Total Chemicals.		\$458,686

Gases:

Nitrogen:	\$0
Hydrogen:	\$0
Oxygen/Acetylene	\$0
NOx, CO, SO2, O2 Span Gas	\$0
Total Gases:	\$0

Office Supplies & Services:

Postage, Overnight Mail, etc:	\$17,104
Freight	\$0
Telephone	\$41,038
Utilities	\$9,263
Dues, Subscriptions	\$70,914
Advertising	\$0
Camera/ Film/Photo Supplies:	\$0
Copier/Paper/Service:	\$0
Office Supplies:	\$40,194
General Supplies	\$0
Audio Visual Equipment:	\$0
Portable Radios/Service:	\$0
Drinking Water:	\$0
Safety Supplies:	\$0
Safety/Environmental Insp:	\$0
Instrument Service/Repair:	\$0
Vehicles/Service/Fuel:	\$165,284
Insurance Autos/Trucks	\$0
Lift Trucks/Service:	\$0
Small Tools:	\$0
Software for Computers:	\$271
Computer Hardware:	\$0
Building Maintenance:	\$4,594
Janitorial Supplies:	\$0
Misc. Expenses:	\$13,310
Uniforms:	\$0
Total Supplies and Services	\$361,973

Office Furniture/Rent:

Office Rent:	\$0
Desk/Chairs/etc:	\$0
Lab/Shop/Cntrl. Rm Equip:	\$0
Computer Lease:	\$0

Total Office Furniture \$0

FIGURE - 21

Direct Mat'l

↑
320

File Name: CoalPerf031601
Project Name: Sample Project

Location: USA

Operator: To Be Determined

Rentals/Lease:

Tools:	
Equipment:	\$15,304
Office:	\$261,694
Office Equipment	\$57,431
Railcar:	\$1,066,871
Lease Auto/Tucks	\$17,253
Total Rentals:	\$1,418,553

Planned Spare Parts:

Boiler:	\$1,731,661
Turbine:	\$766,330
APC Equipment:	\$149,151
Feedwater System:	\$62,661
BOP:	\$176,591
Total Spare Parts:	\$2,886,394

FIGURE - 22

↑
340

File Name: CoalPerf037601
Project Name: Sample Project
Location: USA
Operator: To Be Determined

Proximate Analysis:

FC	33.71%
VM	30.44%
S	0.85%
M	28.55%
A	5.45%
Total	100.00%
HHV (Btu#)	8,500

Information used in conjunction with the coal classification figure:

BTU-
DRY.
6504.88
33.70%

Project Coal Classification:

3
Coat Type:
(Calciated)
Sub-Baumous

Ash Mineral Analysis:

Silica - SiO ₂	31.00
Alumina - Al ₂ O ₃	14.00
Titania - TiO ₂	1.10
Iron Oxide - Fe ₂ O ₃	6.50
Lime - CaO	24.60
Magnesia - MgO	6.00
Potassium Oxide - K ₂ O	0.25
Sodium Oxide - Na ₂ O	1.30
Sulfur Trioxide - SO ₃	12.20
Phosphorous Pentoxide - P ₂ O ₅	0.70
Undetermined	2.35
Total	100.00

Ash Fusion Temperatures (Deg. F)
Initial Deformation-Reducing (Input Data)
Initial Deformation-Cracking (Input Data)

PARR Formula Relationships:

BASE/ACID RATIO:
(A range of 4-7
occurs and results in low ashifiability tempe)
0.7641
IRON/CALCIUM RATIO:
(≤1.3 indicative
lowers the ashifiability tempe of the ash)
0.28
IRON/ALUMINA RATIO:
(at. wt. ratio)
0.21
SILICA/ALUMINA RATIO:
(above 2.8 & b)
2.21

F16URE6- 23

Project Natural Gas Analysis:

File/Gas Watch	0
#gasCu, Fr, (Nm)	0
GHI to GT (WMBTU)	372.8
GHI to Octane Burners	32.26
Total GHI:	405.06
HRV of Fuel (BTU/Cu, ft.)	0
59708	59708
7144	426,453,652

Natural Gas Heating Value Conversion Analysis:
17-Mar-01

Natural Gas Analysis:	
Percent by vol.	Blw/CF(1)

Natural Gas Analysis:		Percent by vol.	LHV (Btu/CF(1))	Comp. Btu (60°F-30°W/G)	LHV (60°F-30°W/G)	Comp. Btu (60°F-30°W/G)
Gas	Volume					
O ₂	0.00%	0	0.00	0.00	0.00	0.00
Oxygen	0.00%	0	0.00	0.00	0.00	0.00
Argon	A	0.00%	0	0.00	0.00	0.00
Carbon Dioxide	CO ₂	0.00%	0	0.00	0.00	0.00
Nitrogen	N ₂	0.00%	0	0.00	0.00	0.00
Hydrogen	H ₂	0.00%	319.4	0.00	0.00	0.00
Hydrogen Sulfide	HS	0.00%	64.7	0.00	0.00	0.00
Methane	CH ₄	0.00%	884.7	0.00	0.00	0.00
Ethane	C ₂ H ₆	0.00%	1742.6	0.00	0.00	0.00
Propane	C ₃ H ₈	0.00%	2460.1	0.00	0.00	0.00
Butane	C ₄ H ₁₀	0.00%	3215.6	0.00	0.00	0.00
Pentane	C ₅ H ₁₂	0.00%	3850.2	0.00	0.00	0.00
Hexane	C ₆ H ₁₄	0.00%	4511.23	0.00	0	0.00
Total		0.00%	4511.23	0.00	0.00	0.00

Notes:
(1) Source Made's standard Handbook for Mechanical Engineers

FIGURE 24

Molecular Weight		1	2	3	4	5
S	32,084			32,084		
O	19,989		2	31,989	64,083	50,054

Mines	2012						2013			
	Average BTU/lb Content	Average Percent Sulfur (S %)	Average Ash Content (%)	In Compliance or Non- Compliance	S % allowed for Compliance	the SCT/MM Blu	802 Reduction Blu	the SCT/MM Blu	802 Reduction Blu	Cost of Offsets Tons
Bailey	12,950	2.14%	7.50%	N	0.768%	3.3	10.00%	2.97	0.038462	\$5,769
Colonial	12,800	0.33%	8.69%	N	0.768%	1.45	0.00%	1.45	0.016560	\$2,784
Whitelail	12,800	1.00%	8.25%	N	0.768%	2.5	0.00%	2.50	0.032000	\$4,800
Juliana	12,900	1.28%	9.75%	N	0.775%	2	0.00%	2.00	0.025600	\$3,870
Sawmill	12,800	1.20%	9.75%	N	0.775%	2	0.00%	2.00	0.025600	\$3,870
Sentinal	12,800	1.28%	9.75%	N	0.775%	2	0.00%	2.00	0.025600	\$3,870
Whitfire	12,800	0.33%	9.25%	N	0.769%	1.45	0.00%	1.45	0.016560	\$2,784

Provided Information		Project Info. Check		Project Info. Check	
		BBtu	\$/ton _b	BBtu	\$/ton _b
Unit 1	8,551	768,000	11,500	12,929	6,768
Unit 2	8,551	796,000	13,510	12,929	6,762
Unit 3	8,551	752,000	12,881	12,220	6,118
		2,264,000	38,718	37,230	18,634
		BBtu	\$/ton _b	BBtu	\$/ton _b
Unit 1	8,551	2,272,000	38,856	11,500	6,768
Unit 2	8,551	2,339,000	39,944	13,510	6,762
		4,611,000	78,840	25,010	12,518

Calculated Information:		Sub-Bioluminescent		SO2 (1.25MMBtu)		SO2 (1.25MMBtu)	
Project	Unit 1	Unit 2	Unit 3	Tons Fired	Allowable	Actual	Offset Required
	Unit 1	Unit 2	Unit 3	1,617.002	27,489.038	27,489.038	10,988
				#NUM!	#NUM!	#NUM!	#NUM!
				#NUM!	#NUM!	#NUM!	#NUM!
				#NUM!	#NUM!	#NUM!	#NUM!
				#NUM!	#NUM!	#NUM!	#NUM!

FIGURE 25

O & M Labor, Purchased Power And Fuel Calculations

GENERAL PROJECT INFORMATION:

File Name: CostPerUnit01
Project Name: Sample Project

Location: USA

Operator: To Be Determined

ANNUAL NET LOST RATE (to present day): 4.0%

BASIS DATE: 2/24/2013

ESCALATION DATE: 7/1/2001

Part Year Factor: 100

Number of Units: 1

Total Installed MW: 373

Average Unit Size: 100

Multiple Unit Labor Multiplier: 1.00

CAPACITY (MW):

SYSTEM POWER BLOCK

NUMBER OF SHIFTS:

4 Operations and Maintenance

1 Administration

NUMBER OF EMPLOYEES:

1 PER SHIFT

PER POSITION

Being Updated

Zip Code to be used to determine:

COMPENSATION ADJUSTMENT

PROJECT ADJUSTMENT

ANNUAL

REVIEW

ESCALATION DATE

7/1/2001

Part Year Factor: 100

Number of Shifts: 1

Total Installed MW: 373

Average Unit Size: 100

Multiple Unit Labor Multiplier: 1.00

CAPACITY (MW):

SYSTEM POWER BLOCK

NUMBER OF SHIFTS:

4 Operations and Maintenance

1 Administration

NUMBER OF EMPLOYEES:

1 PER SHIFT

PER POSITION

Number of Shifts: 1

Total Installed MW: 373

Average Unit Size: 100

Multiple Unit Labor Multiplier: 1.00

CAPACITY (MW):

SYSTEM POWER BLOCK

NUMBER OF SHIFTS:

4 Operations and Maintenance

1 Administration

NUMBER OF EMPLOYEES:

1 PER SHIFT

PER POSITION

80

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■ REPLACEMENT RESERVE

V MSC EXPENSES

WATER & SEWER

Not Included Building Data Base:	
WATER	QTY
SEWER	REFI
	REFI
TOTAL WATER & SEWER	REFI
	REFI
POLICY	APPROXIMATELY
1 ALL RISK POLICY (\$50 MILLION)	\$200,000
BUSINESS INTERRUPTION (\$15 MILLION)	\$80,400
3 THIRD PARTY LIABILITY (\$5 MILLION)	\$250,000
4 POLLUTION LIABILITY (\$1 MILLION)	\$100,000
TOTAL INSURANCE	\$90,000
	90

PURCHASED POWER	HOUSE LOAD	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
	HOUSE LOAD (kW)	5.50%	0.00%	0.00%	0.00%	0.00%	0.00%
	HOURS PER YEAR OF USE	20,480	0	0	0	0	0
	% OF HOUSE LOAD PURCHASED	91.8	0%	0%	0%	0%	0%
	POWER COST	10%	0%	0%	0%	0%	0%
	ELECTRIC COST	0.05	0	0	0	0	0
	DEMAND CHARGE	\$112,700	\$0	\$0	\$0	\$0	\$0
	TOTAL ELECTRICITY COST	\$12,700	\$0	\$0	\$0	\$0	\$0
START-UP FUEL	APPROXIMATE DAY OFF LINE	9,464,614.69	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5
	NUMBER OF STARTS PER YEAR (AVER 3 DAY OFF)		21	0	0	0	0
	GROSS HEAT INPUT OF UNIT (MILLION BTUS PER HOUR)		7	0	0	0	0
	WHICH STARTUP BURNERS-15% OF GROSS LOAD BTUS PER HOUR)		\$655	#NUM!	#NUM!	#NUM!	#NUM!
	AVERAGE LENGTH OF START-UP (HOURS)		\$33.25	#NUM!	#NUM!	#NUM!	#NUM!
	HEAT INPUT FROM STARTS		4	4	4	4	4
	TOTAL MILLION BTUS REQUIRED FOR START-UP		14,831	#NUM!	#NUM!	#NUM!	#NUM!
	NATURAL GAS REQUIRED @		\$0.20	0.20	0.20	0.20	0.20
	OR REQUIRED @		\$1.00	1.00	1.00	1.00	1.00
			per gallon				
			105.963	105.963	105.963	105.963	105.963

REAL ESTATE TAXES

NOT INCLUDED IN ESTIMATE

WHEELING COST

Calculated Value

175198551 2030316253

FeeInC \$1,311,000

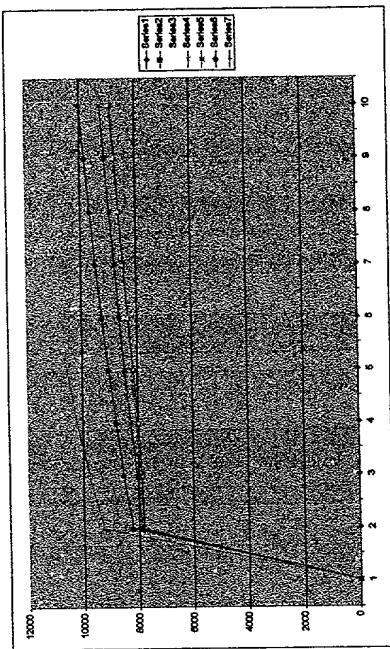
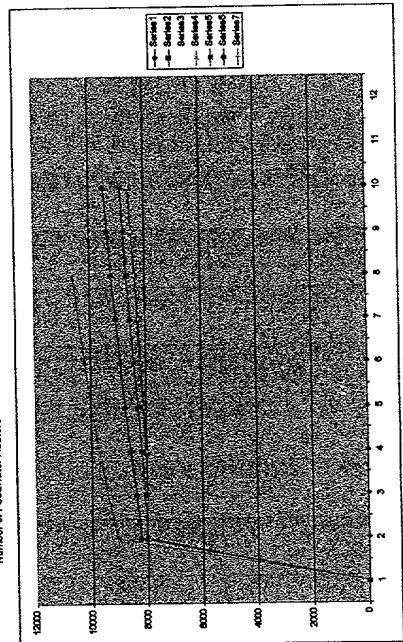
FIGURE - 27

FIGURE 28

This tab is being used to adjust variations in heat rate at partial loads in the performance section of the model

		TCDF Last Stage Bucket Length									
		TCDF Last Stage Bucket Length									
Load	0.22%	0.28%	0.33%	0.39%	0.44%	0.50%	0.55%	0.61%	0.67%	0.72%	0.78%
Test heat rates	20%	23%	26%	29%	33%	40%	48%	56%	64%	72%	79%
calc. uncorrected	13.463	12.173	11.327	11.371	11.720	10.772	10.754	10.427	10.301	10.114	9.859
heat transfer correction factor	9.742	9.733	9.835	9.338	9.658	9.150	9.532	9.954	9.907	10.053	9.941
1.1261239	1.11850487	1.1088835	1.0848632	1.0882478	1.0762077	1.0758072	1.0752075	1.0747717	1.0742507	1.0737142	1.0732507
Check	20%	28%	35%	40%	46%	52%	58%	64%	69%	74%	79%
200 MW Tandem Compound	9.650	10.143	10.225	10.225	10.225	10.225	10.225	10.225	10.225	10.225	10.225
350 MW Tandem Compound											
400 MW Tandem Compound											
600 MW Tandem Compound											

Flow Rates
Subcritical: 900,000
1,025,000
Boiler Feedwater Temperature - F
Number of Feedwater Heaters
8



		Flow Rates Subcritical: 900,000 1,025,000 Boiler Feedwater Temperature - F Number of Feedwater Heaters 6									
		Flow Rates Subcritical: 900,000 1,025,000 Boiler Feedwater Temperature - F Number of Feedwater Heaters 6									
Load	0.22%	0.28%	0.33%	0.39%	0.44%	0.50%	0.55%	0.61%	0.67%	0.72%	0.78%
Test heat rates	20%	23%	26%	29%	33%	40%	48%	56%	64%	72%	79%
calc. uncorrected	13.463	12.173	11.327	11.371	11.720	10.772	10.754	10.427	10.301	10.114	9.859
heat transfer correction factor	9.742	9.733	9.835	9.338	9.658	9.150	9.532	9.954	9.907	10.053	9.941
1.1261239	1.11850487	1.1088835	1.0848632	1.0882478	1.0762077	1.0758072	1.0752075	1.0747717	1.0742507	1.0737142	1.0732507
Check	20%	28%	35%	40%	46%	52%	58%	64%	69%	74%	79%
200 MW Tandem Compound	9.650	10.143	10.225	10.225	10.225	10.225	10.225	10.225	10.225	10.225	10.225
350 MW Tandem Compound											
400 MW Tandem Compound											
600 MW Tandem Compound											

Heat Rate

		Heat Rate									
		Heat Rate									
Load	0.22%	0.28%	0.33%	0.39%	0.44%	0.50%	0.55%	0.61%	0.67%	0.72%	0.78%
Test heat rates	20%	23%	26%	29%	33%	40%	48%	56%	64%	72%	79%
calc. uncorrected	13.463	12.173	11.327	11.371	11.720	10.772	10.754	10.427	10.301	10.114	9.859
heat transfer correction factor	9.742	9.733	9.835	9.338	9.658	9.150	9.532	9.954	9.907	10.053	9.941
1.1261239	1.11850487	1.1088835	1.0848632	1.0882478	1.0762077	1.0758072	1.0752075	1.0747717	1.0742507	1.0737142	1.0732507
Check	20%	28%	35%	40%	46%	52%	58%	64%	69%	74%	79%
200 MW Tandem Compound	9.650	10.143	10.225	10.225	10.225	10.225	10.225	10.225	10.225	10.225	10.225
350 MW Tandem Compound											
400 MW Tandem Compound											
600 MW Tandem Compound											

Turn. Cen

3/17/2001
6:01 PM

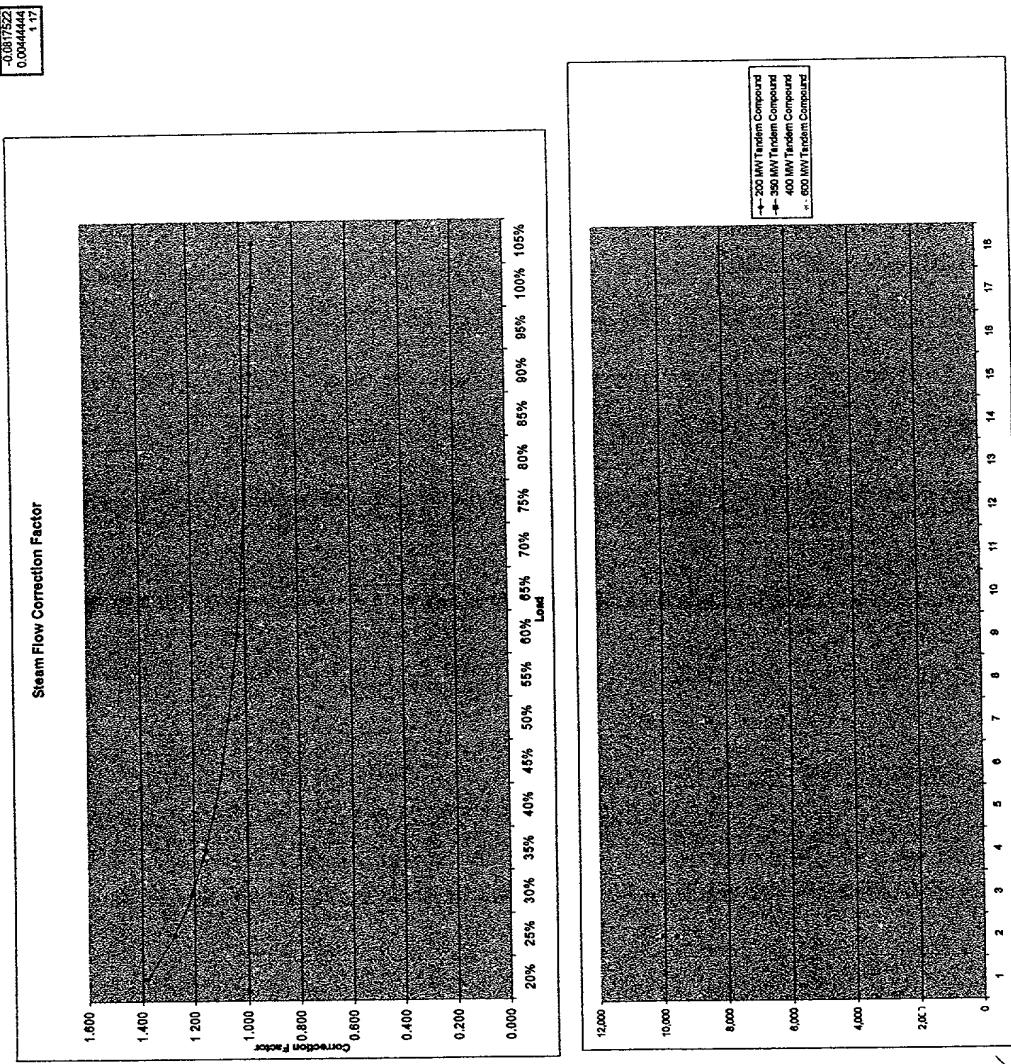


FIGURE 29

FIGURE-30

File Name: CoalPerf031601
 Project Name: Sample Project
 Location: USA
 Operator: To Be Determined

EDispatch Information For Reference Only		2001												2010											
Average Annual Capacity	373	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020					
Capacity Factor	83.70%	89.03%	71.30%	69.80%	87.50%	88.10%	67.10%	88.00%	67.10%	88.10%	68.20%	87.90%	67.30%	67.30%	68.60%	69.60%	67.10%	68.80%	67.20%	67.30%	67.40%				
Creditited Capacity Factor	83.63%	89.00%	71.05%	69.03%	87.73%	88.03%	67.05%	87.75%	67.05%	87.75%	68.14%	87.75%	67.78%	67.78%	68.03%	69.03%	67.78%	67.78%	68.03%	67.78%	67.78%				
Availability	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%				
Average Load	83.00%	94.44%	78.22%	77.33%	75.00%	75.87%	74.56%	75.56%	75.44%	75.33%	75.78%	75.44%	74.44%	75.11%	74.00%	74.56%	74.00%	74.87%	74.88%						
Hours in Year	6,760	8,764	6,760	6,760	8,760	8,760	8,760	8,760	8,760	8,760	8,764	8,760	8,760	8,764	8,760	8,764	8,760	8,760	8,764	8,760	8,764				
Hours Dispatched	7,884	7,884	7,806	7,884	7,884	7,884	7,884	7,884	7,884	7,884	7,884	7,884	7,884	7,884	7,884	7,884	7,884	7,884	7,884	7,884	7,884				
Annual Output	2,731,405	2,731,629	2,353,127	2,271,276	2,222,326	2,195,882	2,195,093	2,15,800	2,212,536	2,231,687	2,179,331	2,199,693	2,173,376	2,192,856	2,202,237	2,199,483									
Creditited Annual Output	2,327,778	2,361,857	2,084,653	2,032,555	2,084,503	2,084,503	2,084,503	2,084,503	2,084,503	2,084,503	2,084,503	2,084,503	2,084,503	2,084,503	2,084,503	2,084,503	2,084,503	2,084,503	2,084,503	2,084,503	2,084,503				
Major Outages	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
Hours Available for Dispatched	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021				
January	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744				
February	672	672	698	672	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240				
March	240	240	720	720	720	720	720	720	720	720	720	720	720	720	720	720	720	720	720	720	720				
April	720	720	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744				
May	744	744	720	720	720	720	720	720	720	720	720	720	720	720	720	720	720	720	720	720	720				
June	720	720	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744				
July	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744				
August	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744				
September	720	720	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744				
October	0	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744				
November	720	456	720	720	720	720	720	720	720	720	720	720	720	720	720	720	720	720	720	720	720				
December	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744	744				
Total	8256	7248	8280	8280	8256	8256	8256	8256	8256	8256	8256	8256	8256	8256	8256	8256	8256	8256	8256	8256	8256				
Hours Dispatched	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021				
January	744	692	692	692	692	692	692	692	692	692	692	692	692	692	692	692	692	692	692	692	692				
February	672	625	647	625	625	647	625	647	625	625	647	625	647	625	647	625	647	625	647	625	647				
March	240	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228				
April	720	677	677	677	677	677	677	677	677	677	677	677	677	677	677	677	677	677	677	677	677				
May	744	707	707	707	707	707	707	707	707	707	707	707	707	707	707	707	707	707	707	707	707				
June	720	684	684	684	684	684	684	684	684	684	684	684	684	684	684	684	684	684	684	684	684				
July	744	714	714	714	714	714	714	714	714	714	714	714	714	714	714	714	714	714	714	714	714				
August	744	714	714	714	714	714	714	714	714	714	714	714	714	714	714	714	714	714	714	714	714				
September	720	684	684	684	684	684	684	684	684	684	684	684	684	684	684	684	684	684	684	684	684				
October	0	707	707	707	707	707	707	707	707	707	707	707	707	707	707	707	707	707	707	707	707				
November	720	429	677	677	677	677	677	677	677	677	677	677	677	677	677	677	677	677	677	677	677				
December	744	699	699	699	699	699	699	699	699	699	699	699	699	699	699	699	699	699	699	699	699				
Total Hours Dispatched	8256	8851	7828	94.54%	94.54%	94.54%	94.54%	94.54%	94.54%	94.54%	94.54%	94.54%	94.54%	94.54%	94.54%	94.54%	94.54%	94.54%	94.54%	94.54%	94.54%				
Percentage of Available Hours	94.25%	78.20%	89.11%	89.10%	89.10%	89.10%	89.10%	89.10%	89.10%	89.10%	89.10%	89.10%	89.10%	89.10%	89.10%	89.10%	89.10%	89.10%	89.10%	89.10%	89.10%				
Average Annual Load	95.00%	98.58%	98.51%	98.51%	98.51%	98.51%	98.51%	98.51%	98.51%	98.51%	98.51%	98.51%	98.51%	98.51%	98.51%	98.51%	98.51%	98.51%	98.51%	98.51%	98.51%				

Assumed Tax (per ton of Carbon):	\$40
----------------------------------	------

Sub- Bituminous		
Facility Net Heat Rate (HHV):	BTU/KWH	9,956
HHV of Coal:	BTU/#	8,500
Percent Carbon in Coal (WT)		48.30%
Unit Capacity:	MW	373
Carbon Loss:		0.25%
Molecular Weight of Carbon		12.01
Molecular Weight of O2		32.00
Price per MMBtu from Coal		1.11
Price per Ton of Coal (delivered)	per Ton	\$30.00
Net KWH Produced:		2,761,097,147
Coal Fired	Tons	1,617,002
Carbon in Flue Gas	Tons	781,012
CO2	Tons	2,861,804
Fuel Cost:	Total	\$48,631,344
	\$/kwh	\$0.0176
Carbon Tax:		\$31,240,484
	per KWH	\$0.0113
	per MMBtu	\$1.14

Tons CO2/kWh

0.001036473

FIGURE- 32

FIGURE 33

